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ABSTRACT

There is no question that professionals and students need help in the process of gathering, deciphering, and then utilizing career information. As we enter the 21st century, school counselors are in a significant position to access and facilitate use of all sorts of career information, and they must be technically prepared to orient students, teachers, and parents to vast opportunities that the future holds. This chapter discusses the current state of career planning with a focus on adolescent career exploration and current resources in use. It then describes Career Explore, an interactive program that uses the Internet, and its implementation in middle and high schools throughout North Carolina. An appendix lists helpful web sites for finding career information. (Contains 11 references.) (MKA)

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Interactive Career Counseling in Middle and Secondary Schools: Integrating the Use of the Internet Into School Career Development Programs

JOANNA REFVEM, JEAN C. PLANTE, AND W. LARRY OSBORNE

Information is exploding in every area of life. Adolescents and the school professionals who help them have the arduous task of deciphering a mountain of data during their pursuit of career goals and dreams. Within the school setting, counselors can facilitate the process through dialogues in individual and group counseling sessions, but this is only the beginning of the process.

Understanding and incorporating the use of the Internet in a school career development program is necessary for retrieving current information. Though traditional methods of finding information need not be abandoned, useful and user-friendly interactive computer programs exist that can guide students, parents, and counselors through the vast and complicated world of career information. Counselors must have an understanding of adolescent career development and an ability to facilitate access to the information and promote it, both via traditional sources and the Internet. This chapter discusses the current state of career planning, with a focus on adolescent career exploration and current resources in use, and then describes Career Explorer, an interactive program that uses the Internet, and its implementation in middle and high schools throughout the state of North Carolina. An appendix lists helpful web sites for career information.

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CAREER PLANNING FOR THE 21ST CENTURY

The current concept of career planning incorporates many changes that have evolved throughout the last few decades and are clearly a result of the phenomenal growth of technology, increased longevity, and a global society. Counselors today act as human development change agents (Carr, 1996) and as technological guides during the career planning process, which includes decisions about how generally to live one's life. According to Herr and Cramer (1996),

> Careers are unique to each person and created by what one chooses or doesn't choose. They are dynamic and unfolding throughout life. They include not only occupations but prevocational and postvocational concerns as well as how persons integrate their work life with other life roles: family, community, leisure. (p. 32)

Sorting through information useful for making informed decisions about one's life then becomes important. Students must develop good communication skills, including use of the Internet, and then sort and apply the information by using effective decision-making skills to produce a personal plan for the future.

Adolescent Career Exploration

Career counseling in middle and high school is tailored to the unique characteristics of adolescents during those tumultuous years when they begin to learn more about themselves. Part of the adolescent's search for identity is the keen desire to explore interests, abilities, and new experiences, and to find satisfaction. Stevenson and Carr (1993) pointed out that adolescents are inexperienced, undergoing tremendous personal change. Many are facing for the first time complex decisions about the reality of work in relation to their own lives. In searching for ways to reach these young students, counselors can provide access to the Internet to enable students to make the link between school and work.

Position on the economic spectrum and cultural background influence students' understanding of the world of work. Schmidt (1999) reminded us that "The textbooks and multimedia avenues

chosen to illustrate career choices must depict a variety of nontraditional occupational opportunities for women and men, as well as the career integration of people from all cultures" (p. 244). Interactive computer programs allow unlimited possibilities for students seeking to incorporate who they are into the world of work.

Goals for career counseling in middle and high school are defined by the *National Career Development Competencies* (National Occupational Information Coordinating Committee [NOICC] 1998). These guidelines describe competencies that provide a framework for planning, implementing, and evaluating a comprehensive middle or high school guidance program. The three categories of self-knowledge, educational and occupational exploration, and career planning combine to promote the growth of a student's self-concept and understanding of school-to-work transitions, and also help students incorporate knowledge and understanding into a plan for the future.

Current Resources in Use

Herr & Cramer (1996) highlighted numerous vehicles for gathering career information: printed matter (e.g., career publications), audiovisual media, interviewing representatives from various careers, role-playing, field trips, and direct experience. Traditional means of delivering job and occupational information include noninteractive media such as the U.S. Department of Labor's *Dictionary of Occupational Titles* (*DOT*) (www.onetcenter.org), which lists 12,741 jobs, and *Occupational Outlook Handbook* (*OOH*) (http://stats.bls.gov/ocohome.htm), which furnishes global information on future predictions for jobs and occupations. Though available directly over the Internet, these sources are best used in conjunction with other career research tools.

The National Occupational Information Coordinating Committee, established by Congress in 1976, coordinates the collection and use of current, valid, comprehensive career information to be used in workforce development and career preparation at the national and state levels (Lester, 1996). NOICC, together with its state counterparts, the state occupational information coordinating committees (SOICCs), have worked with public and private sources to create computer-based career information delivery sys-

tems. Accessible on the Internet, these agencies contribute a base of information and links to other sites that further enhance career knowledge. For additional information about other career information delivery systems, visit the web site of the Association of Computer-Based Systems for Career Information (ACSCI) (www.acsci.org).

Career Explorer (Bridges, 1998), discussed later in this chapter, is linked through the North Carolina SOICC homepage. Other computer-based career information delivery systems include Discover II (see Lewis-Clark State College's web site www.lcsc.edu/CDS/discover.htm) and CHOICES, both of which actively engage students and adults who are seeking an overall system to create a total picture of their career and educational options. DISCOVER II is based on Super's developmental stages (Osborne, 1996) and Tiedeman and O'Hara's decision-making model, along with the data-people-things orientation of the *DOT* (Herr & Cramer, 1996). Both DISCOVER II and CHOICES (using different formats) offer interest, skill, and value assessments along with educational and occupational information. However, although useful and available, these programs are limited in their ability to provide the level of current information available through interactive computer programs. The goal in this chapter is to preview Career Explorer, which is an interactive resource that can be integrated into a middle/high school career planning program and that can stimulate adolescents to explore and seize ideas that motivate them to reach out for new experiences and knowledge.

LET'S GO SURFING: INTERNET ACCESS THROUGH CAREER EXPLORER

Establishing rapport and building a relationship are key first steps for school counselors working with adolescents and their career aspirations. Mitchell, Levin, and Krumboltz (1999) proposed that career counselors adopt a "planned happenstance" (p. 116) approach whereby the counselor helps clients "generate, recognize, and incorporate" (p. 117) chance events into their career development. Rather than waiting for life to happen to them, clients should be challenged to prepare for the unplanned so that action can be taken when the unexpected happens. Tapping into the natural de-

sire adolescents have for exploration and utilizing the increasingly available access to the World Wide Web seem both prudent and necessary in the information gathering process. With its unlimited volume of data, the Internet is a place where adolescents may experience the unexpected and, with help, can make use of the information gathered.

There is no question that, even though readily available, acquiring and using information gathered via the Internet can be both overwhelming and time consuming. The sheer volume of data is more than any one individual can navigate without help. Programs exist and are developed daily that aid in this search. Many of these can be accessed through NOICC (www.noicc.gov) and SOICC (the NOICC site has access to a SOICC page for each state).

One such program is Career Explorer (Bridges, 1998), currently in use throughout the state of North Carolina. This program provides one of the most extensive and interactive frameworks for use of the Internet in career counseling in the schools. In particular, the program appeals to students and teachers by connecting career information to interests and education. School counselors can provide help to both students and staff, both in personal use of the information and application to subjects covered in the classroom. Additionally, the program as utilized in North Carolina schools aligns closely with the *National Career Development Competencies for Middle/Junior and High Schools* (NOICC, 1998), reviewed earlier in this chapter. The temptation when logging on to the Internet is to jump from site to site, seeking just the right information. The beauty of this program is that once students have used some of the basic tools, links are provided that are an appropriate match for their research.

The content of Career Explorer is written in a style that appeals to adolescents, with new articles appearing daily. The program offers a variety of interactive services, allowing both teachers and students to request information. Articles not only cover basic education, salary, and outlook but also contain interviews with people working in those careers. In addition, learning activities for the classroom are linked to the careers featured each day. Professionals (teachers) also can benefit from use of a variety of lesson plans and an on-line course on career development.

This type of program provides the interactive ability to upgrade or adapt material based on requests from adolescents themselves. Through e-mail, students can ask questions about occupations featured or those they have merely heard about. The combination of student access and ready availability to the Internet provides a continuously customized resource for students, teachers, and counselors.

Student Access

Daily news, interest inventories, interviews with professionals in various careers, and access to college web sites are among the many resources that attract students to this program. Every day a new occupation is highlighted with complete information regarding responsibilities, availability, compensation, and future outlook. For example, on June 7, 1999, one of the occupations highlighted was plastics engineer. Students were provided with a detailed description of the history of plastics, use of plastics in our society, and outlook for jobs (with reference to the *Occupational Outlook Handbook*). Students had the opportunity to play the role of a plastics engineer, with a typical decision-making problem faced in that job. They also could practice interoffice memo writing, again playing the role of the plastics engineer. Feedback and examples of both were included. In addition, there was an interview with a plastics engineer with e-mail access allowing students to interact with that representative.

E-mail also provides a way for students to request information on new or unusual occupations from Career Explorer staff. Once a student has utilized the research and other tools, Career Explorer provides links to sites such as college web pages and the College Board (for SAT information) as students contemplate their next step. With undoubtedly little time available each day to make use of this information, students can store information in their own "locker" at the Career Explorer site. Continuity is maintained, and both student and counselor can monitor progress toward stated career goals.

Teacher Involvement

Incorporating career information into education can be complicated and time consuming. The information provided in the Daily News feature of Career Explorer often provides a related math or

English activity/problem teachers can use in the classroom. Referring to June 7, 1999, and the plastics engineer, a math problem was presented in which students were asked to assume the role and respond to a request by an operations manager to calculate the efficiency of a flow rate gauge used in a plastics plant. The problem, questions, and solution were all provided for use individually or in the classroom.

Peer interaction on-line and learning modules provided by Career Explorer enable teachers to enhance career training in the classroom. And for those teachers so inclined, an on-line 12-week training course on career development is available. Some school districts in North Carolina have considered the possibility of offering continuing education credit for completing this course.

School Counselor as Coordinator/Consultant

Often students visit the counseling office in a school to discuss career goals/concerns/interests with a school counselor. Individual and group counseling will remain the hallmark of the school counselor's function, yet providing access to information also is a vital responsibility. By creating a career center where a program such as Career Explorer is a key fixture, time and resources are conserved as the counselor implements the guidelines provided, as discussed in the next section. Whether the counselor meets with students individually, provides orientation to the career center, or consults with teachers regarding classroom modules, Career Explorer provides a framework for learning.

Herr and Cramer (1996) warned that "indiscriminate use of the computer may not be appropriate" and that "individuals must be assisted through a variety of techniques to use data in a personally meaningful manner" (p. 642). The National Career Development Association (NCDA, 1999) has developed *NCDA Guidelines for the Use of the Internet for Provision of Career Information and Planning Services* (see Appendix 6). Career Explorer meets or exceeds several purposes of Internet-based career services suggested by the NCDA, including delivery of information about occupations, providing on-line searches of occupational databases, and delivering interactive career counseling and career planning services. The NCDA guidelines cover many aspects of services provided by ca-

reer counselors over the Internet and should be reviewed prior to implementing an Internet-based career development program. Every counselor must view any helpful computer program as a resource to aid in his or her function as a counselor. The career planning journey by adolescents must be guided by counselors, teachers, and parents alike, and no machine, even if it has interactive capabilities, can compensate for the value of personal input.

IMPLEMENTING CAREER EXPLORER

In August 1997, the North Carolina State Occupational Information Coordinating Committee (NCSOICC, 1998) (www.esc.state.ns.us/soicc/index.htm) agreed to launch a pilot program featuring Career Explorer (Bridges, 1998). In collaboration with the North Carolina Department of Public Instruction and the Commission on Workforce Preparedness/Job Ready, NCSOICC developed a series of minipilots that covered the theme areas of career centers, individual counseling, classroom instruction, and professional development. In addition, a detailed outline was developed describing how the minipilots relate to National Career Development Competencies (NOICC, 1998) for both middle/ junior high and senior high. Theme areas and sample activities were as follows:

- **For the career center theme area:** Activities utilized Career Explorer's Daily News service, subject-specific career services using Career Explorer resources, and a dynamic career center project to increase participation in the school career center as a one-stop location for career information services. For example, strategies for use of the Daily News service included leaving copies of the Daily News page on the staff room table or placing it in selected teachers' boxes, placing a daily copy on selected bulletin boards in the school, and/or selecting one part of the Daily News to feature in the daily announcements. Use of the Daily News service met or exceeded the National Career Development Competencies of understanding the effect of growth and development and understanding the need for positive attitudes toward work and learning (high school); and of knowledge of the importance of growth and change; skills to locate, understand,

and use career information; and knowledge of different occupations and changing male/female roles (middle/junior high).

- **For the individual counseling theme area:** Minipilots included use by the school counselor of an informational interview and development of career research workshops. Strategies for the informational interviews included focusing on key life questions (What do you want from your life? What do you have to offer the world?) and then using results of this interview with Career Explorer's Career Research Tool. Logistics included selecting a target group of students to interview, and helping them translate their interests, skills, and personality style into the Career Research Tool, with an agreement from each student to research for at least 1 hour. Informational interviewing meets many National Career Development Competencies for both high school and middle/junior high school including skills to locate, evaluate, and interpret career information; skills to make decisions; and skills in career planning (high school); and understanding the relationship between work and learning, and knowledge of different occupations and changing male/female roles (middle/junior high).
- **For the classroom instruction theme area:** Units included Career Research (grades 10–12), Decision-Making Training (grades 7–10), Career Planning (grades 9–12), and Daily Career Current Events (all grade levels). For example, Daily Career Current Events focused on providing career-related information in a classroom. Strategies included printing copies of the Career Explorer Daily News for 20 consecutive days, with an evaluation at the end of that period regarding change in specific knowledge and career alternatives. In two participating classes, students took a pretest (simply writing 50 careers on piece of paper in 5 minutes) and then a posttest at the end of 20 days with the same exercise plus classroom discussion. Students also were encouraged to visit the Career Center during the 20-day period. For all grade levels, this activity promoted the National Career Development Competency of skills to locate, evaluate, and interpret information.
- **For the professional development theme area:** Activities included 1-minute updates for professionals, peer interaction on-

line, and an on-line professional development course. The peer interaction activity promoted discussions with other career professionals, either by utilizing expert advice provided by Career Explorer staff, or the teacher-to-teacher feature in which comments, questions, and responses are posted on a virtual bulletin board. A coordinating staff member encouraged other teachers to post messages to the bulletin board over the pilot period, and also solicited questions related to career development to submit to the career expert service. This type of activity allowed teachers and other staff members to become involved with the program in order to take full advantage of the resources offered, and also to increase understanding of student experience with the program.

With time, other programs like Career Explorer will be developed and implemented as interactive career counseling gains popularity. Every day counselors, within the school setting as well as community-based agencies, must seek to maintain their awareness of new career resources and developments.

CONCLUSION

There is no question that professionals and students need help in the process of gathering, deciphering, and then utilizing career information. As we enter the 21st century, counselors are in a significant position to access and facilitate use of all sorts of career information, and they must be technically prepared to orient students, teachers, and parents to the vast opportunities that the future holds. Programs like Career Explorer provide a one-stop service for all aspects of this process. Every day new information becomes available, and as Mitchell, Levin, and Krumboltz (1999) have discussed, being prepared for the unexpected promotes individual development and career decision making. Mitchell et al. have encouraged the notion of open-mindedness in their model, which fits well with a program like Career Explorer. Who knows what will be discovered tomorrow? The future can become an adventure to look forward to instead of a decision-making time to dread.

That said, developing and implementing this type of program into a school development program can be costly both in human and financial resources. Computers with Internet access need to be available. Counselors and teachers interested in career development must commit extra hours and energy to all phases of such a project. Licensing agreements can become costly and may conflict with previous financial commitments. All these obstacles can and must be addressed.

In spite of these hurdles, centralizing career services in the school setting seems both logical and achievable. Career Explorer is currently used in 45 American states and 7 Canadian provinces, providing access for more than 2 million middle and secondary schools. This type of program clearly has widespread appeal. Shedding methods and procedures that are quickly becoming outdated and utilizing the ever-changing sources of information via the Internet depict the nature of the new millennium. Counselors will hear few arguments from adolescents who are always eager to explore, question, experiment, and eventually establish themselves in the world.

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Appendix

Helpful Web Sites for Career Information

- Association of Computer-Based Systems for Career Information (ACSCI) (www.acsci.org/). This professional association focuses on the advancement and delivery of career information.
- DISCOVER II (www.lcsc.edu/CDS/discover.htm). This site at Lewis-Clark State College provides access to information about DISCOVER II, a computer-based career information delivery system.
- *Dictionary of Occupational Titles* (*DOT*) (www.onetcenter.org). The *Dictionary of Occupational Titles* is in the process of becoming the Occupational Information Network (O*NET). This site provides access to this network with its comprehensive databases of worker attributes and job characteristics.
- National Career Development Association (NCDA) (http://ncda.org). The NCDA has developed guidelines for the use of the Internet in the delivery of career counseling services. See Appendix 6.
- National Occupational Information Coordinating Committee (www.noicc.gov/). This site provides access to SOICC homepages for each state. In addition, numerous other links to career information are provided.
- North Carolina State Occupational Information Coordinating Committee (NCSOICC) (www.esc.state.nc.us/soicc/index.htm). This site contains detailed information about Career Explorer and its use in the state of North Carolina.
- *Occupational Outlook Handbook* (*OOH*) (http://stats.bls.gov/ocohome.htm). This site, part of the Bureau of Labor Statistics web site, allows users to do keyword and index searches in the *OOH*.
- State Occupational Information Coordinating Committee (SOICC) (www.noicc.gov/). The site for each SOICC is linked through the NOICC site as already noted.